

1 Figure 1 shows a scanning electron micro graph of micro-machined
 2 vibratory ring gyroscope having freely suspended tracks
 3 schematically shown thereon;
 4

5 Figure 2 shows a cross section through a channel between two
 6 portions of a material wherein the top portion of the channel has
 7 been sealed;
 8

9 *Figures 3a-3d*
 10 ~~Figure 3~~ schematically shows a process for fabricating a freely
 11 suspended track;
 12

13 *Figures 4a-4d*
 14 ~~Figure 4~~ schematically shows a further process flow for forming a
 15 freely suspended track; and

16 Figures 5 to 9 show schematically further embodiments of the
 17 invention.

18 *not AS*
 19 The gyroscope 2 of Figure 1 comprises a number of channels (for example
 20 those referenced 4 and 6) etched into a surface portion of a substrate 8,
 21 which in this case is a silicon wafer. A ring 10 has also been fabricated
 22 into the silicon and is substantially freely suspended in the bulk of the
 23 substrate 8. The ring is a device suspended portion substantially free
 24 from the bulk of the substrate 8 having been undercut during its formation
 25 so that a bottom portion thereof is separated from the bulk of the
 26 substrate 8. The ring 10 is maintained in place on the substrate 8 by eight
 27 pairs of ligaments (a to h), which are connected to the ring 10 and to the
 28 bulk of the substrate 8.

29 There is also a comb resonator 12 provided in association with the
 30 gyroscope containing both channels and device suspended portions 14.

EX.
 AMEND.
 7/12/04
 KCU

00706613:030904